

Coachella Valley Regional Mobility Dialogue Series

Results and Summary



**Affordable,
Sustainable
Transportation in
the Coachella Valley:**
Solutions for the
Local Workforce

Jan 29, 2019

Introduction

Mobility and freedom to travel is seen as a fundamental right. What does this mean in practice? For many people in Southern California, it is the ability to use their personal vehicles for travel, but what about those who lack access? Transportation in these situations become an issue of equity and mobility. If those who have lower incomes or have fewer resources are unable to get to their destinations, it can leave them with few opportunities for advancement. The question then becomes, why does this occur? Where is the failure in the market to provide the needed service? In some communities, there might be a simple answer, but many communities need a fundamental rethinking of how to solve mobility problems. One such way is to look at Mobility as a Service (MaaS) instead of Mass transit.

This Dialogue explored the issues that arise for those who have a lack of access to transportation, and a few of the answers found in MaaS. Shared mobility and transportation solutions are changing with new innovations and technologies. In this series we discussed, current solutions and future possibilities for an affordable, sustainable transportation system in the Coachella Valley. As part of this discussion, we looked at solutions for the local workforce and student populations.

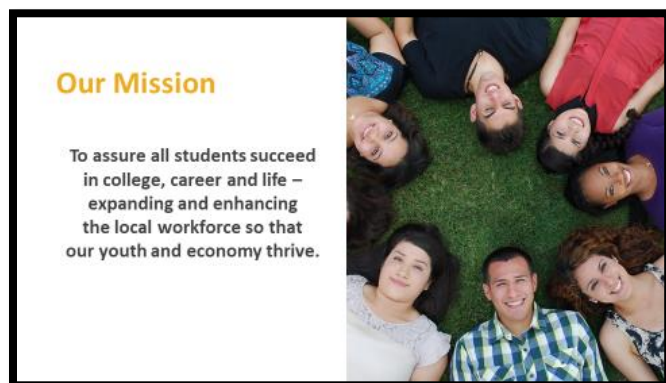
Guest Speakers:

- Sheila Thornton, President/CEO of One Future Coachella Valley
- Lauren Skiver, General Manager of Sunline Transit Agency
- David Embrey Pickeral, JD, Strategic Advisor in Mobility Innovation and Smart Cities

The main takeaways from this Dialogue series included addressing the lack of connection between what is happening in transportation verses what the needs are. In addition, helping to better connect students and higher education with public transit systems so they can get to and from work and school easier. Future success is linked to Mobility as a Service (MaaS) or tying together individual modes seamlessly so that people can have access to a means of transportation that is affordable and convenient.

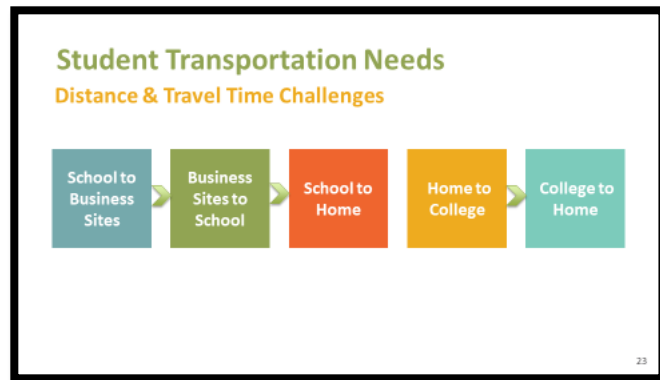
OneFuture Coachella Valley: Preparing all students for college, career, and life — Sheila Thornton

Sheila Thornton, CEO of OneFuture Coachella Valley, began the discussion with a focus on the importance of all students succeeding in college, career, and life. The success of young people in the Coachella Valley will enhance and expand the local workforce – creating success for the youth and economy.



Poverty rates in the Coachella Valley are extremely high, and many of the kids are relied upon to contribute to family income. “So what does college and career readiness have to do with transportation? That's what I'm going to cover today. I don't have any solutions, but I think we are beginning to shake that out in our regional work and we're asking students to be part of the solution,” said Thornton.

The focus of OneFuture is to ensure students are ready to commit to a college education and help them find a career path that best suits them. Many of the students in the Coachella Valley do not have a reliable mode of transportation, which negatively impacts their ability to get to school or work. It is a critical issue in the CV as every one of these students (6,000 plus) have to complete an internship in their senior year. The budget cuts in the school districts reduced school transportation, therefore individual teachers drive their students where they need to go. “They have to get them to the internships and then they have to get them back to the site. Then the bus schedule doesn't run when they come back to their site, and so they figure out a way to get home,” stated Thornton.

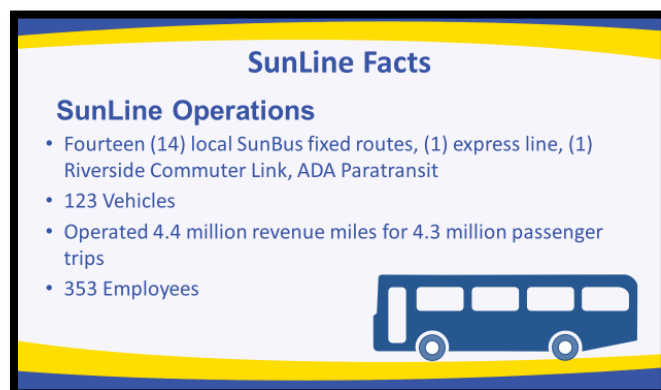


With the growth of OneFuture’s career academies—the small learning communities where students are getting core academics and relevant career learning experiences—transportation and advance technology have grown. Students are learning skills in these career academies that are relevant for the future of transportation, logistics, and mobility. The students studying in pathways are finishing at a faster rate and are ready to join the local workforce, but the lack of transportation available to them is a big obstacle. “The students who go to College of the Desert (COD) now have access to the Haul Pass, which has been a phenomenal advancement and folks are very grateful,” said Thornton. The Haul Pass is a free SunLine bus service for College of the Desert students that will launch this fall at participating colleges and universities. This is a three year pilot program to provide college students with free unlimited access to the public transit network.

Sunline is at the table with OneFuture’s Business Engagement A-Team, which is working on solutions for the transportation challenges in the region with the students in the Transportation Technology Advancement pathway. They are working together to map out the transportation paths for career academy students and are preparing a presentation and proposal to add the Haul Pass. Employers in the Coachella Valley are considering the Haul Pass, however at the moment, it is still up for discussion.

Sunline Transit Agency — Lauren Skiver

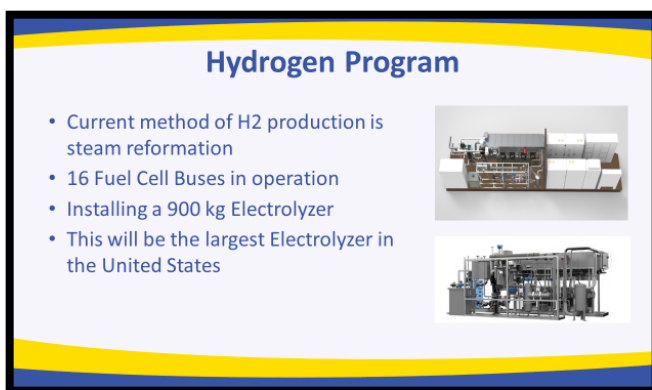
The Sunline Transit Agency’s buses say, “Today’s transit for tomorrow’s world.” According to Lauren Skiver, the general manager of Sunline Transit Agency, this is exactly what Sunline is providing. It is the leader in the development of a hydrogen fuel cell propulsion system, which is now being deployed across the world. “So we're a small transit agency, but we are probably one of the most well-known across the



world for our hydrogen program and our work in clean fuels,” said Skiver. Sunline is a technology company that provides transit services. With approximately 353 employees, Sunline is the largest employer in the Coachella Valley. Skiver has worked at four different transit systems in the U.S., and the Coachella Valley has one of the best roadway networks. Sunline has recently launched a commuter van service in the valley. “Sunline’s been trying to get free transportation to students for five years and didn’t get any support on it, and so I think there’s a ton more things we want to do that take both regional and city support, including bus service for high school students,” stated Skiver.

Sunline prides itself on being an evolving transit system. They do not want to do the same business they did 20 years ago. They do not plan on putting the same routes out that the users do not ride. Sunline has three business units that sets them apart from other transit agencies. The first business unit is the Sunline Transit Agency, the second is the Sunline Service Group, and the third is SunFuels. Sunline Service Group helps regulate taxi operators, and SunFuels provides

the Coachella Valley with CNG and Hydrogen. The revenue from Sunline Service and SunFuels is used to support transit service provided by Sunline Transit. This extra revenue also helps Sunline be less dependent on the federal government when there are shutdowns.

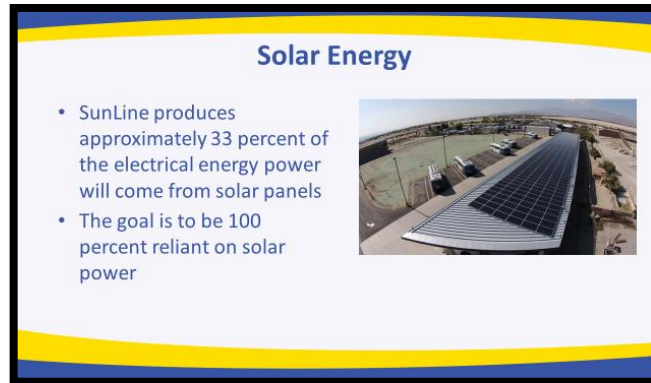


Sunline has developed a hydrogen fuel cell propulsion system—an electric bus that uses the fuel cell as a range extender and charges the batteries. Currently, Sunline runs 16 fuel cell buses, and soon they will up that number to 25. In addition, Sunline has four electric buses.

Sunline also makes their own hydrogen using steam reformation. Soon they will be running the largest electrolyzer in the United States, with the goal of producing 900 kilograms


using solar energy. An electrolyzer is a device that uses an anode and cathode to separate water into hydrogen and oxygen.

Sunline has a strong solar project on their campus. They are currently working on a project that will take them to about 60 percent solar, and with the electrolyzer, they will be able to stay off the grid. In the future, the goal is to be generate 100 percent of their facilities and fueling program needs through solar.



Solar Energy

- SunLine produces approximately 33 percent of the electrical energy power will come from solar panels
- The goal is to be 100 percent reliant on solar power



Sunline received a \$13 million grant from the State of California as part of the Innovative Clean Transit rule (ICT rule). This rule states that all heavy-duty fleets will have to move to zero emissions by 2040.



SunLine's Center of Excellence

Establish a West Coast Center of Excellence to house investments in learning

- Funding from FTA and California Fuel Cell Partnership
- For every investment in technology, there is investment in training and learning
- A site to preserve and enhance those learning investments

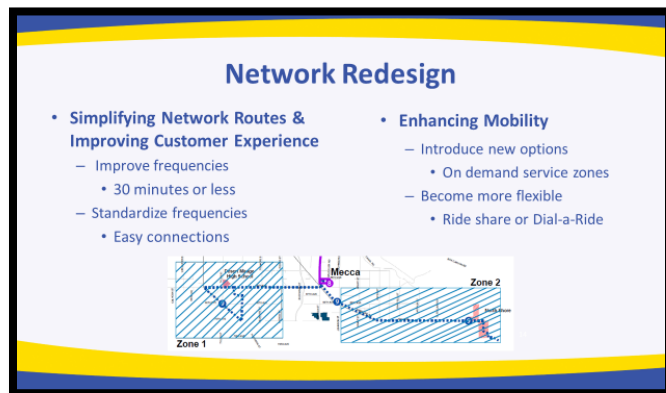


Sunline is working on their hydrogen propulsion and electric systems to help the industry convert the road truck fleet, drayage fleet, and any vehicles considered heavy-duty. “I mentioned we got a federal grant to build the Center of Excellence. The Center of Excellence will be a training facility for zero emission and clean fuels technology, it won't just be transit. We're going to open it up to any private OEM (original equipment manufacturer), or any other disciplines that

needs a work area, so they're going to have a bay, garage, and classrooms,” said Skiver.

Sunline currently has an estimated \$2 million to build the facility adjacent to the transit agency. The goal is to have a location for students to learn on the job while also pursuing their degree. Sunline would like to see the Coachella Valley put itself on the map as an environmental hub. Skiver sees the Coachella Valley as a desirable location to build a school for students interested in environmental science, because the Valley already has many of the needed elements—windmill farms, Sunline Transit and the Salton Sea, and lots of sunshine.

When discussing transit users’ needs, communication between the riders and Sunline needs to continue to improve upon future services. “We're now working on a redesign of our entire transit network. We have been working for a year to figure out what our customers need, what's being ridden, what's not being ridden, and what do we need to run to be more productive? We know it is not 40 foot buses in the Coachella Valley. We don't have the density here to really make fixed route transit be as productive as it needs to be, so we are looking at different options,” said Skiver.

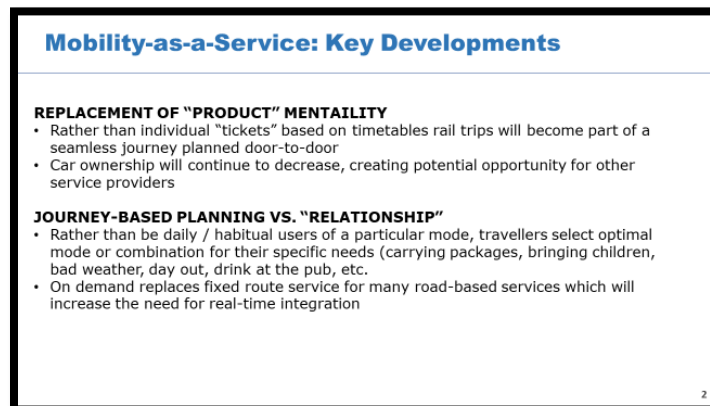


As of right now, Sunline has 15 bus lines and they are working to condense that down to nine lines so that riders do not have to take multiple buses to reach their destinations. In addition, Sunline will be introducing a rideshare application. Similar to Uber or Lyft, the Sunline Rideshare app will have a triangle as an icon, where the public can pay electronically, and will be picked up and dropped off. The hope is that this app will help solve the first-mile/last-mile gap in the

Coachella Valley. The app currently is being tested by students at the College of the Desert.

Mobility as a Service (MaaS) — David Pickeral

Closing out this Dialogue, David Pickeral, a strategic advisor to mobility innovation and smart cities, discussed the concept of Mobility as a Service (MaaS). “The biggest thing to recognize is the idea of MaaS being a product, it is not,” said Pickeral. Most car manufacturers still think of Mobility as a Service as a product that can be packaged and sold. Mobility as a Service is not one particular service. It could be a multitude of things, for example, transit, car-sharing, using your individual car with smart parking, or perhaps carpooling. MaaS is the idea of tying together individual modes seamlessly so that people can have convenient access. It is a combination of all modes. According to Pickeral, from a national and international level, the Coachella Valley is leading in development of innovative projects when it comes to transit, even in comparison to LA Metro.



When it comes to last mile, MaaS makes sense by replacing fixed route services with the idea of on demand services, because most agencies are unable to maintain a certain headway (the average interval of time between buses traveling the same direction on the same route). In addition, Mobility as a Service provides more flexibility for elderly and mobility-challenged people. They can be picked up rather than having to stand and wait at the bus stop. One of the key elements that comes with Mobility as a Service is the creation of a data-centric environment. “One of the biggest challenges is a lot of data collection is necessary for this to work, as there is an interplay,” said Pickeral. Both the TNC’s [transportation network company] and transit agencies collect the data and share it with the computer aided dispatch automated vehicle location (CADAVL) systems. Once the data is collected, it then needs to be synthesized. With data collection comes privacy concerns as most people do not want their information shared and to be tracked. Overall, transit agencies just want to know who is using the transit route or the highway system and they want to know the demographics of their riders.

Moving Beyond Fixed Route Municipal Transit	
Transportation Network Companies—TNC Examples: Uber, Lyft, Grab Strengths: Strong customer base, provide door to door service Weaknesses: Low volume and much more expensive than transit, even with newer pooling options. Perceived as competing with mass transit and often poor government relationships Strategy: Beat on price and even more on cooperation with public sector	Direct Outsource Operators Examples: TransDev, First, MV Strengths: Lower OPEX for traditional fixed route transit services than government operations Weaknesses: Same low farebox return (~20%) using the same vehicles (40' buses) and facilities as transit properties (i.e. no CAPEX reduction), increasing loss of ridership to TNCs as SEPTA recently reported Strategy: Focus on net cost sustainability especially with State DOTs / FTA in providing transit funding
Jitney / On-Demand Transit (ODT) Examples: Via (Daimler) Strengths: Low cost service Weaknesses: Successfully opposed by many in transit establishment wanting to preserve the 40' standard. Bridj and Chariot each failed. Strategy: Focus on monetizing cost takeout, meeting expectation of lower funding from all sources and at all levels of government especially FTA, state DOTs and city councils holding the real "purse strings" for transit	Ad Hoc/ Sharing Enterprises Examples: Local car and vanpooling, carsharing (ReachNow, Car2Go, Maven), bike / scooter sharing (Jump, Lime, Bird, Skip) Strengths: Little or no cost to governments and usually inexpensive for riders Weaknesses: Sporadic service, inconsistent equipment, may be seasonal only Strategy: Top candidate for better organisation under #MaaS

Another key component of MaaS is integration and collaboration. Within the United States, there needs to be an increase of public-private-partnerships. Different modes such as car and bike sharing, jitneys, tours, pedicabs, need to be integrated into the transit system. It is important to move beyond a fixed route municipal transit, and that includes what Mr. Pickeral described as the four bins:

- **Transportation Network Companies (TNCs)**
 - Uber, Lyft, GrabTaxi
- **Direct Outsource Operators**
 - TransDev - Private public transport operator
 - First Transit - Contracts public transit and paratransit services
 - MV Transportation - Largest privately owned passenger transportation firm in the United States
- **Jitney/On-Demand Transit (ODT)**
 - Via (Daimler subsidiary)
- **Ad Hoc/Sharing Enterprises**
 - Local car and vanpooling, carsharing

Many TNC's are losing money. For example, Uber lost \$4.5 billion dollars in 2017. Because of this, many of the TNC's are now looking to collaborate with government. From a government perspective, it is important that they close the gap in understanding who is providing what services.

MaaS users can expect to pay one time from portal to portal for each trip. In addition, they will have routing contextualized in terms of current conditions and activities. "You're now seeing car and vanpool services basically going out there and sticking scooters or shared cars on the street corners. They're good because they don't cost a lot to governments, but they also tend to steal riders and revenue and again, you don't really have a chance to regulate what we [the public] should officially know about," said Pickeral. According to Pickeral, out of the 25 major U.S. cities, Seattle and Houston are the two where the transit systems are currently losing riders to TNC's.

MaaS Users Can Expect
<ul style="list-style-type: none"> • To plan and pay only once, portal-to portal, for each trip • To have pricing, route and time information up front to support effective decisionmaking for travel • To have special needs accounted for (age, physical constraints, security concerns, carbon footprint neutral, etc.) • To have routing contextualized in terms of current conditions and activities (weather, protests, sporting events, road closures, traffic) • To receive content that is both multimodal and mode agnostic in favor of providing neutral choices • To have these options available in any community and serving all demographics

Lastly, Pickeral addressed the needs of the disabled community when it comes to Mobility as a Service . Special needs customers are generally unimpressed with paratransit—specialized transportation service for people with disabilities. It is being offered as an addition to fixed-route bus and rail systems by public

transit agencies. However, paratransit comes with numerous constraints, such as requiring to call 24 hours in advance for their services, in addition to being extremely costly. One idea being explored around the country is to further develop microtransit and on demand services, and blend them with carrying special needs passengers. In sum, the disabled community is happy with the idea of having one service for everybody.

Moving the Dialogue Forward: Ideas from the Participants

After the presentations, Dialogue attendees discussed the ideas presented and worked together in groups to find solutions to move the issue forward. The top three ideas from each table have been categorized and summarized below.

Better transit service geared towards students. A number of participants felt that the best way to help move this discussion forward is to focus on how to improve the Coachella Valley transit system so that it fulfills the needs of students in the area.

- Create a geographic student registry so students can carpool with local classmates.
- Include local college students in the transit conversation and process so they can help brainstorm ways to improve the system.
- Build student work based learning needs into the Sunline Transit SunRide plan.
- Further connect students and higher education with public transit.

New innovative projects that Sunline Transit has done and is doing, but need more information sharing and to bridge the gaps. Many of the participants were pleased to hear about the innovative projects that Sunline Transit Agency has done in the Coachella Valley and how it will benefit the region moving forward.

- Sunlines' SunRide app can be used for rideshare for work based learning students and help manage their commute.
- Moving forward have better communication between transit agencies and stakeholders.
- There is a lack of connection between what is happening in transportation versus what the needs are; we need to bridge that gap.
- Great resources and innovation on the issue of transit and transportation that exist in the Coachella Valley, but it is not fully aligned toward cross-sector solutions. How can we change this moving forward?
- Impressed with the evolution of Sunline Transit's system. We need more communication between higher education and transit.
- We need to do a better job at relaying transportation needs from the community and connecting those folks directly to the transit operators.

The Leonard Transportation Center (LTC) at California State University San Bernardino (CSUSB), presented a bi-monthly dialogue series on topics relevant to the future of transportation in the Inland Empire. The series, which was open to the public, was sponsored by HNTB Corporation and was held every other month starting in February 2018.

Dialogue topics ranged from understanding the current mobility dilemma and its causes to potential solutions like congestion pricing, transit; emerging technologies such as autonomous and connected vehicles and new ways of funding transportation infrastructure. Attendees had the opportunity to hear from transportation experts and engage in vigorous discussion about the transportation challenges facing the Inland Empire.

About Leonard Transportation Center

The Leonard Transportation Center (LTC) at California State University, San Bernardino opened in 2006 with a focus on regional transportation needs. The vision of Bill and Barbara Leonard was to create a center that focuses on the unique transportation opportunities and challenges the Inland Empire faces. Today, the LTC is working to expand its research and student engagement programs. Focal points include transportation management and governance issues, development of new technologies, and transnational studies. Their vision is to work collaboratively to seek solutions to assist residents, businesses, government and nonprofit agencies, and international partners to work together on improving sustainability and quality of life in the Inland Empire. For more information, visit www.csusb.edu/ltc.